CHP's Role in U.S. Climate Policy: Achieving Least-Cost CO_2 Reductions

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The CHP Summit: A National Dialogue on CHP

CHP Is Pollution Prevention

- Improving Efficiency of Fossil-Fueled Electric Power Generation Prevents Pollution and Reduces Fuel Consumption
  - CHP Efficiencies: 60% to 90%
  - Traditional Generation: 25% to 50%

    (existing U.S. electric system average = 32%)

- CHP Benefits Efforts to Reduce:

  CO_2, NO_X, SO_2, PM, and Mercury

"Today 2/3's of the energy used to provide electricity is squandered as waste heat. We can do much, much better."

President Clinton

October 22, 1997

Remarks on Climate Change

President Clinton
October 1, 1997

"Can we **embrace technology to make energy production more efficient** and put fewer greenhouse gases into the atmosphere? Is there . . . a way out of astronomical taxes or heavy-handed governmental regulation that will permit us to gradually **bring down our greenhouse gas production and still grow the economy** . . . ? I believe the answer is yes."

Statement of the European Commission, October 1997

"The efficient use of energy . . . is recognized as the **single most important policy objective** in attaining the E.U.'s state objective of stabilizing CO_2 emissions. CHP is **one of the very few technologies which can offer a significant short or medium term contribution** to the energy efficiency issue in the E.U.

CHP Potential in U.S. by 2010

- Incremental CHP (assumes capture of 30% of remaining potential):
  - **35 GW** of electric capacity
    (from 6% to 8.5% of total capacity)
  - **250 BKWHr** of electric generation
    (from 9% to 12.5% of total generation)
- **Impact on GHG emissions:**
  - **30 MMTCE**

What Happened In Buenos Aries?

Adopted Action Plan for Addressing:

- Kyoto Mechanisms
  - Joint Implementation
  - Emissions Trading

    (Including Issue of "Supplementarity")
  - Clean Development Mechanism
- Compliance Issues
- Policies and Measures

CHP's Role in U.S. Climate Policy:

Achieving Least-Cost CO_2 Reductions

- Early Reductions
- Greater Domestic Reductions
- Exporting Technologies

CHP Should Be a Leading Source of Early Reductions in the U.S.

- Proven, Available, and Flexible
- Cost-Effective
- Important Coincident Benefits
  - Conserve Finite Fossil Fuel Resources
  - Reduce Associated Fossil Fuel Emissions (NO_X, SO_2, PM, and Mercury)
  - Lowers Costs to Meet Caps on SO_2 and NO_X

Additional CHP: Increases Domestic Reductions

- 30 MMTCE Potential = 6% of U.S. "Gap"
- Largest Impact of any Single Group of Technologies
- Could Save U.S. $1 Billion in Avoided Allowance Purchases
- Will Increase % of U.S. Reductions Achieved Domestically

Benefits to U.S. Economy through Development of CHP Export Markets

- Facilitated by Clean Development Mechanism (CDM) and Joint Implementation (JI)
- Many Leading U.S. Manufacturers and Service Providers Supply CHP
  - Gas Turbine Manufacturers: GE, Allison, Solar Turbines
  - Fuel Cell Manufacturers: United Technologies/ONSI
  - Project Developers, Design Engineers, Constructors: Trigen, AES, U.S.Generating, Bechtel Power Corp.

Realizing CHP's Potential

- Regulatory Barrier Identification & Removal
  - Electricity Restructuring
  - **Environmental (*)**
  - Tax
- Non-Regulatory
  - Industry Consultations and Early Action
  - Voluntary Programs